

Notice of Allowability

Application No.

10/714,226

Examiner

Thanh T. Nguyen

Applicant(s)

RYU ET AL.

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/19/06.
2. ☒ The allowed claim(s) is/are 1 and 3-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>6/29/06</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Krause on 6/29/06.

The application has been amended as follows:

In the specification on page 28, between lines 18 and 19 inserts a new paragraph read as follows:

--In the embodiments of the methods disclosed herein, the insulating film is a silicon nitride or oxide film selected from SiO_x , SiO_xH_y , SiN_x and can be either bi-layer or multiple-layer or a film of nitride or oxide of a metal selected from Al, Cu, Ti and W.

In the embodiments of the methods described herein, the semiconductor layer can be made of a material selected from either a-Si (amorphous silicon), a-Ge (amorphous germanium), $\text{a-Si}_x\text{Ge}_y$ (amorphous silicon germanium), poly-Si (poly-crystalline silicon), poly-Ge (poly-crystalline germanium) or poly-Si_xGe_y (poly-crystalline silicon-germanium). The metal film can be made of a metal selected from Al, Cu, Ti, W, Au or silver or compound of any of these metals and a semiconductor.--.

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In claim 7, line 1, after "is" please replace "a Si nitride or oxide film selected from SiO_x , SiO_xH_y , SIN" with --a silicon oxide, silicon hydroxide or a silicon nitride--.

Replace claim 8 with --8. The method of claim 1, wherein the semiconductor layer is made of one selected from amorphous silicon, amorphous germanium, amorphous silicon germanium, poly-crystalline silicon, poly-crystalline germanium, poly-crystalline silicon germanium.--.

The following is an examiner's statement of reasons for allowance:

Claims 1, 3-11 are allowed because none of the prior art alone or in combination teaches or suggests the particular subset of the process steps in irradiating the substrate of the desired size with a laser in a specific shape through a mask so that the laser-irradiated portion is firstly crystallized, conducting a first scanning process which comprises moving the laser by the desired distance so that a grain in the firstly crystallized portion is grown by the desired distance, completing the first scanning process after it was progressed by the desired distance, thereby forming a poly-crystal island region, conducting a second scanning process which comprises 90° turning the laser at the end of the first scanning process and scanning the seed grain formed in an elongated shape in the scanning direction during the first scanning process so that the seed grain is grow to form a single crystal region, irradiating the laser onto a portion of a single crystal seed region formed after progressing the second scanning process by the desired distance, thereby extending the single crystal region.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (571) 272-1702. The fax phone number for this Group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to thy Private PAIR system, contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).



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Patent Examining Group 2800